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REMARKS

Claims 1-20 are pending in the application upon entry of the amendments. Claims 1, 10, and 17 have been amended to better describe certain aspects of the invention. Favorable reconsideration in light of the amendments and the remarks which follow is respectfully requested.

Election

The Examiner has required the election of a single species for prosecution on the merits. Applicants elected the species of Embodiment I (claims 1-9) for examination in the previous reply.

Claim 10 has been amended to depend on claim 1. Thus, once claim 1 is allowed, each of dependent claims depending on claim 1, directly or indirectly, will also be allowable.

Drawing Objection

The drawings have been objected to as failing to comply with 37 CFR 1.84(p)(4). The Examiner contends that reference characters "308," "322," "324," and "326" each have been used to designate two different parts. Applicants respectfully disagree. For the following reasons, withdrawal of the objection is respectfully requested.

The reference character "308" has been used to designate a polymer dielectric structure (page 14, line 31 of the specification) and the polymer dielectric structure is known as a shallow trench isolation (STI) region. Thus, the reference character "308" has been used to designate one part.

The reference character "322" has been used to designate a second polymer dielectric structure (page 15, line 10 of the specification) and the second polymer dielectric structure is known as a stop layer dielectric (SLD). Thus, the reference character "322" has been used to designate one part.

The reference character "326" has been used to designate a fourth polymer dielectric structure (page 15, line 22 of the specification) and the fourth polymer dielectric

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structure is known as a polymer interlayer dielectric (ILD). Thus, the reference character "326" has been used to designate one part.

For reference character "324," the Examiner contends that the reference character "324" has been used to designate both a third polymer dielectric and SLD by citing page 15, line 25. The Specification at page 15, line 25 states that the interlayer dielectric may contain the same or different material as the third polymer dielectric structure 324 and/or the stop layer dielectric (SLD) 322. The reference character "324" has not been used to designate both a third polymer dielectric and SLD.

Art Rejection

Claims 1-9 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Oglesby et al. (US Patent No. 6,656,763, hereinafter "Oglesby") in view of Farrar (US Patent No. 6,838,764). It is respectfully submitted that the rejection be withdrawn for at least the following reasons.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the cited art or in the knowledge generally available to one of ordinary skill in the art, to modify the cited art or to combine the cited art. Second, there must be a reasonable expectation of success. Finally, the cited art must teach or suggest all the claim features. See MPEP 706.02(j).

Independent claims 1 and 17 have been amended to recite "wherein coefficients of thermal expansion of the polymer dielectric and organic semiconductor material are substantially matched" to better distinguish the cited art from the claims. The support of the amendment is found, for example, at page 5, lines 1-5 of the specification.

The Examiner concedes that Oglesby fails to disclose a polymer dielectric over a substrate. The Examiner, however, contends that it would have been obvious to one skilled in the art at the time the invention was made to modify the semiconductor of Oglesby to include a polymer dielectric over a substrate as disclosed in Farrar.

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Applicants respectfully disagree.

Farrar's polymer dielectric is a foamed polymer layer having a hydrophobic surface. Farrar teaches that since an integrated circuit employs a metal signal carrying line "there are limited number of [dielectric] insulators that . . . are compatible with integrated circuit manufacturing processes" (column 1, lines 41-45). As a result, Farrar teaches to employ the foamed dielectric polymer layer.

Moreover, Farrar requires a hydrophobic surface of the foamed dielectric polymer layer. Since "a foamed polymer has the potential to absorb moisture, which increases the dielectric constant of the foamed polymer and the capacitive coupling between the metal signal carrying lines," the foamed polymer layer must have a surface that is hydrophobic (column 1, lines 53-56 and column 2, lines 4-5).

Contrary to the teachings of Farrar, the claimed invention does not need a foamed polymer layer that has a hydrophobic surface. Moreover, there is no teaching or suggestion in Oglesby and Farrar that coefficients of thermal expansion of the polymer dielectric and organic semiconductor material are substantially matched. In the claimed invention, since the coefficients of thermal expansion of the polymer dielectric and organic semiconductor material are substantially matched, changes in temperature do not deleteriously affect the performance, reliability, and/or mechanical integrity of the integrated circuit chips (first full paragraph at page 5 of the specification). Oglesby and Farrar do not recognize the potential problems associated with using materials having different coefficients of thermal expansion. Thus, Oglesby and Farrar would not have motivated one skilled in the art to use a dielectric material and a semiconductor material that have a substantially matched coefficient of thermal expansion.

Oglesby and Farrar, independently or in combination, fail to teach or suggest all the claim features. One skilled in the art could not have arrived at the claimed invention based on the teachings of Oglesby and Farrar since there is no teaching or suggestion in Oglesby and Farrar that coefficients of thermal expansion of the polymer dielectric and organic semiconductor material are substantially matched. If the Examiner is contending that it would be obvious to one skilled in the art to modify the semiconductor of Oglesby

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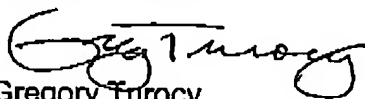
to include a polymer dielectric which has a coefficient of thermal expansion similar to a coefficient of thermal expansion of semiconductor material, it would be a case of improper reliance on Applicants' own specification to justify the rejection. In view of the foregoing, the rejection should be withdrawn.

Should the Examiner believe that a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to our Deposit Account No. 50-1063.

Respectfully submitted,

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